

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	47	battery same (free near2 run\$4) same frequency same phase same (switch switches switching)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/06/22 11:31
L2	25	1 and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/06/22 11:01
L3	0	(battery same (free near2 run\$4) same frequency same phase same (switch switches switching)).clm.	US-PGPUB	OR	ON	2006/06/22 11:16
L4	1	(battery (free near2 run\$4) frequency phase (switch or switches or switching)).clm.	US-PGPUB	AND	ON	2006/06/22 11:17
L5	0	(battery (freerun\$4) frequency phase (switch or switches or switching)).clm.	US-PGPUB	AND	ON	2006/06/22 11:17
L6	138	(battery frequency phase (switch or switches or switching)).clm.	US-PGPUB	AND	ON	2006/06/22 11:17
L7	34	(battery frequency phase (switch or switches or switching) transformer). clm.	US-PGPUB	AND	ON	2006/06/22 11:17
L8	6	battery same (free near2 wheel\$3) same frequency same phase same (switch switches switching)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/06/22 11:41
S1	108	((two adj quadrant)(two-quadrant)) near3 operation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 09:10
S2	4	((two adj quadrant)(two-quadrant)) near3 operation).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 13:58

## EAST Search History

S3	4	S1 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:12
S4	580	((two adj quadrant)(two-quadrant)(four adj quadrant)(four-quadrant)) near3 operation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:03
S5	49	((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant))) near3 operation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 09:11
S6	1523	((two adj quadrant)(two-quadrant)) or ((four adj quadrant)(four-quadrant))).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:14
S7	1523	((two adj quadrant)(two-quadrant))((four adj quadrant)(four-quadrant))).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:15
S8	281	((two adj quadrant)(two-quadrant))((four adj quadrant)(four-quadrant)) same operation).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:37
S9	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:53
S10	37	S9 and 307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:02

## EAST Search History

S11	2	S9 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 15:09
S12	19	("4161023"   "4168477"   "4347474"   "4408268"   "4672303"   "4713742"   "4727308"   "4729088"   "4736151"   "4801859").PN. OR ("4947311").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/03 15:11
S13	1041	((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:08
S14	3	S13 and S9	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:09
S15	1	S14 not S11	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:12
S17	57199	(center adj (tap tapped)) (common adj point)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:14
S18	307	S17 and S9	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:14
S19	12	S18 and S10	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:36

## EAST Search History

S20	109	S18 and battery	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:36
S21	1041	((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:57
S22	97	S21 and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 09:59
S23	72200	boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:00
S24	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:00
S25	175	S23 and S24	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 13:41
S26	13053	(four adj quadrant)(four-quadrant)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:03
S27	57199	(center adj (tap tapped)) (common adj point)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:03

## EAST Search History

S28	55	S25 and (S27 or S26)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:34
S29	8256	boost and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:35
S30	1147	S29 and (S27 or S26)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:38
S31	645	S30 and inductor	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 11:00
S32	2	("4,186,437").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/04 10:43
S33	523	S31 and (ac or (alternating adj current))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 11:45
S34	202	363/101.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 11:49
S36	150	363/21.06.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 12:14

## EAST Search History

S37	25	("4533986"   "4686615"   "4761722"   "5272613"   "5274543"   "5408403"   "5805432"   "5907481"   "5973939"   "5986895"   "6023037"   "6064580"   "6069799"   "6111769"   "6181084"   "6262901"   "6344986"   "6452367"   "6452816"   "6469915"   "6545883"   "6556462"   "6560127"   "6580626"   "6650552").PN. OR ("6888728").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/04 12:10
S38	1137	363/97.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/04 12:10
S39	689	363/16.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 12:14
S40	25	("3571692"   "3660749"   "3947747"   "4020408"   "4449173"   "4491768"   "5198969"   "5295058"   "5442534"   "5528480"   "5535112"   "5541828"   "5552695"   "5565761"   "5570276"   "5805432"   "5808879"   "5815380"   "5815381"   "5828558"   "5999417").PN. OR ("6246592").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/04 12:22
S41	1789	307/66.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/04 12:23
S42	20	307/66.ccls. and S24	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/04 12:24
S43	2	S25 and S21	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 13:41

## EAST Search History

S45	37	S24 and 307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:02
S46	12	S45 and boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:02
S47	2	S21 and S24 and S23	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:06
S48	18202	IGBT or (insulated adj gate adj bipolar adj transistor)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:28
S49	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:18
S50	156	S48 and S49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:18
S51	5585	S48 same mosfet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:28
S53	57	S51 and S49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:29

## EAST Search History

S54	72200	boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:18
S55	175	S49 and S54	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:19
S56	37	S49 and 307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:19
S57	12	S55 and S56	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:24
S58	0	S57 and ("50" near3 duty)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:24
S59	18	S49 and ("50" near3 duty)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:24
S60	2	("6650552").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/06 15:15
S61	128	(buck or boost) adj regulation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:01



## EAST Search History

S62	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:03
S63	1	S61 and S62	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:03
S64	804	S62 and (ac and dc)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:15
S65	143	S64 and utility	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:16
S66	55	S65 and (boost or buck)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:16
S67	47	S66 and inductor	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:29
S68	8	S67 and photovoltaic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:37
S69	2	S67 and (duty near3 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33

## EAST Search History

S70	2	S65 and (duty near3 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33
S71	2	S65 and (duty near4 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33
S72	18	S64 and (duty near4 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33
S73	1041	((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:57
S74	3	S73 and S62	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:58
S75	3	S73 and S62	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:58
S76	2	S75 and boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:58
S77	1812	307/64.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 17:36

## EAST Search History

S78	1038	utility and battery and photovoltaic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 10:23
S79	264	S78 and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 10:50
S81	381	307/43-87.ccls. and battery and utility and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:35
S82	9954	307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:36
S83	26380	free adj running	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:39
S84	78	S82 and S83	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:39
S85	862	(free adj running) same battery	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:42
S86	23	S82 and S85	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:39

## EAST Search History

S87	91	(free adj running) same battery same (duty PWM (pulse adj width))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:00
S88	947	"323"/\$.ccls. and ((bi-directional) (bi adj directional) (bidirectional))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:01
S89	51	S88 and free adj running	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:01
S90	3	S88 and (free adj running) same ((pulse adj width)(duty adj cycle) PWM)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:03
S91	250	"363"/\$.ccls. and (master with slave)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:03
S92	84	S91 and battery	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:03
S93	0	("2004/0004402").URPN.	USPAT	OR	OFF	2006/04/11 16:03
S94	183	307/82.ccls. and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/04/11 16:04
S95	20	307/82.ccls. and transformer same (stepup stepdown step-up step-down (step adj (up down)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 16:07

## EAST Search History

S96	65	battery same utility same transformer with (stepup stepdown step-up step-down (step adj (up down)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 16:07
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